

**DEPARTMENT of ENVIRONMENTAL SERVICES**  
**Water Supply & Pollution Control Division - Biology Bureau**

**LAKE TROPHIC DATA**

**MORPHOMETRIC:**

|                           |   |
|---------------------------|---|
| Lake: LILY POND           | Lake Area (ha): 6.52                    |
| Town: CHESTERFIELD        | Maximum depth (m): 2.5                  |
| County: Cheshire          | Mean depth (m): 1.4                     |
| River Basin: Connecticut  | Volume (m <sup>3</sup> ): 92000         |
| Latitude: 42°51'12" N     | Relative depth: 0.8                     |
| Longitude: 72°26'58" W    | Shore configuration: 1.10               |
| Elevation (ft): 950       | Areal water load (m/yr): 3.81           |
| Shore length (m): 1000    | Flushing rate (yr <sup>-1</sup> ): 2.70 |
| Watershed area (ha): 51.8 | P retention coeff.: 0.71                |
| % watershed ponded: 11.6  | Lake type: natural                      |

**BIOLOGICAL:**

**18 February 1993**

**24 August 1992**

|                                    |    |                    |                      |
|------------------------------------|----|--------------------|----------------------|
| DOM. PHYTOPLANKTON (% TOTAL)       | #1 | PERIDINIUM 95%     | STAURASTRUM 45%      |
|                                    | #2 |                    | CHRYSOSPHAERELLA 40% |
|                                    | #3 |                    |                      |
| PHYTOPLANKTON ABUNDANCE (cells/mL) |    |                    | 10845                |
| CHLOROPHYLL-A (µg/L)               |    |                    | 12.26                |
| DOM. ZOOPLANKTON (% TOTAL)         | #1 | KERATELLA 60%      | KERATELLA 58%        |
|                                    | #2 | NAUPLIUS LARVA 19% | NAUPLIUS LARVA 23%   |
|                                    | #3 | SYNCHAETA 17%      |                      |
| ROTIFERS/LITER                     |    | 212                | 1014                 |
| MICROCRUSTACEA/LITER               |    | 50                 | 392                  |
| ZOOPLANKTON ABUNDANCE (#/L)        |    | 262                | 1406                 |
| VASCULAR PLANT ABUNDANCE           |    |                    | Abundant             |
| SECCHI DISK TRANSPARENCY (m)       |    |                    | 1.6                  |
| BOTTOM DISSOLVED OXYGEN (mg/L)     |    | 7.6                | 6.6                  |
| BACTERIA (E. coli, #/100 ml)       | #1 |                    | < 1                  |
|                                    | #2 |                    |                      |
|                                    | #3 |                    |                      |

**SUMMER THERMAL STRATIFICATION:**

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>) : None  
Anoxic volume (m<sup>3</sup>) : None

**CHEMICAL:**

Lake: LILY POND

Town: CHESTERFIELD

|                               | 18 February 1993 |  | 24 August 1992 |  |  |
|-------------------------------|------------------|--|----------------|--|--|
| DEPTH (m)                     | 1.0              |  | 1.5            |  |  |
| pH (units)                    | 5.3              |  | 5.6            |  |  |
| A.N.C. (Alkalinity)           | 0.6              |  | 1.1            |  |  |
| NITRATE NITROGEN              | < 0.02           |  | < 0.02         |  |  |
| TOTAL KJELDAHL NITROGEN       | 0.27             |  | 0.79           |  |  |
| TOTAL PHOSPHORUS              | 0.008            |  | 0.023          |  |  |
| CONDUCTIVITY ( $\mu$ mhos/cm) | 24.0             |  | 19.1           |  |  |
| APPARENT COLOR (cpu)          | 13               |  | 36             |  |  |
| MAGNESIUM                     |                  |  | 0.35           |  |  |
| CALCIUM                       |                  |  | 1.2            |  |  |
| SODIUM                        |                  |  | 1.2            |  |  |
| POTASSIUM                     |                  |  | 0.16           |  |  |
| CHLORIDE                      | < 3              |  | < 3            |  |  |
| SULFATE                       | 6                |  | 5              |  |  |
| TN : TP                       | 34               |  | 34             |  |  |
| CALCITE SATURATION INDEX      |                  |  | 5.6            |  |  |

All results in mg/L unless indicated otherwise

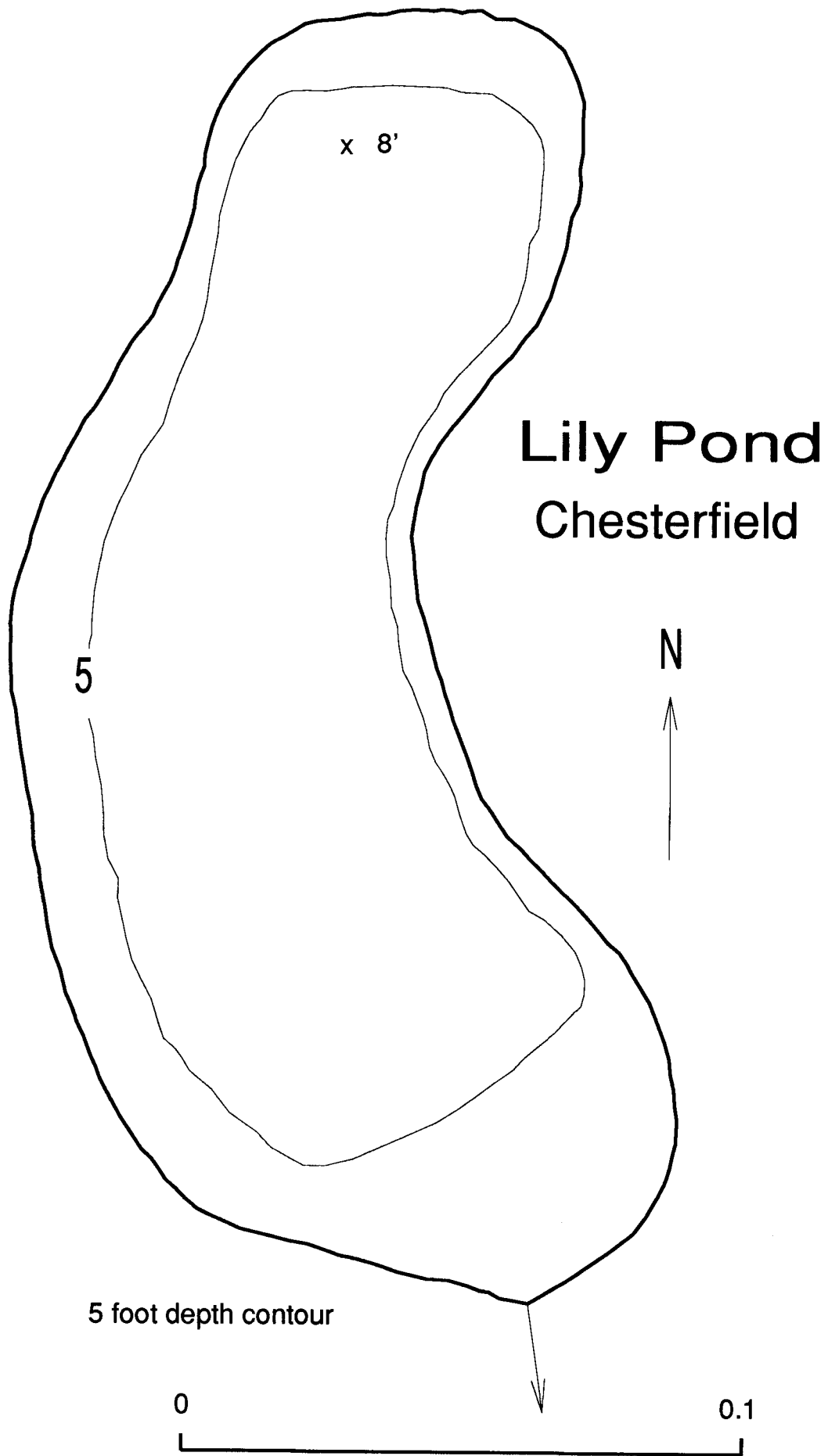
**TROPHIC CLASSIFICATION: 1992**

D.O. S.D. PLANT CHL TOTAL CLASS

|    |   |   |   |    |        |
|----|---|---|---|----|--------|
| ** | 4 | 5 | 3 | 12 | Eutro. |
|----|---|---|---|----|--------|

**COMMENTS:**

1. This is a somewhat remote pond located within Pisgah State Park. Access is by foot only. It was surveyed jointly with Fish and Game personnel.
2. Wholewater phytoplankton cell counts were very numerous, and were dominated by Staurastrum (60%) and Synedra (10%). Desmids (75%) were the dominant family.



## FIELD DATA SHEET

|                 |                            |
|-----------------|----------------------------|
| LAKE: LILY POND | TOWN: CHESTERFIELD         |
| DATE: 08/24/92  | WEATHER: HOT, CLEAR, HUMID |

**TOWN: CHESTERFIELD**

[illegible]

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SECCHI DISK (m):      1.6                COMMENTS:
BOTTOM DEPTH (m):     2.2
                        TIME:  1100

*Dissolved oxygen values are in mg/L
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| <b>AQUATIC PLANT SURVEY</b>  |                         |                           |                       |
|--|-------------------------|---------------------------|-----------------------|
| <b>LAKE:</b> LILY POND   |                         | <b>TOWN:</b> CHESTERFIELD | <b>DATE:</b> 08/24/92 |
| <b>Key</b>   | <b>PLANT NAME</b>       |                           | <b>ABUNDANCE</b>      |
|  | <b>GENERIC</b>          | <b>COMMON</b>             |                       |
| B  | Brasenia schreberi      | Water shield              | Common/Abun           |
| W  | Potamogeton             | Pondweed                  | Sparse                |
| P  | Pontederia cordata      | Pickerelweed              | Common/Abun           |
| D  | Decodon verticillatus   | Swamp loosestrife         | Abundant              |
| G  | Myrica gale             | Sweet gale                | Common                |
| L  | Chamaedaphne calyculata | Leatherleaf               | Common                |
| M  | Sphagnum                | Peat moss                 | Common                |
| R  | Sarracenia purpurea     | Pitcher-plant             | Sparse                |
| N  | Nymphaea                | White water lily          | Abundant              |
| U  | Utricularia radiata     | Bladderwort               | Abundant              |
| Y  | Nuphar                  | Yellow water lily         | Scattered             |
| E  | Eriocaulon septangulare | Pipewort                  | Sparse                |
| S  | Sparganium              | Bur reed                  | Scattered             |
| a  | Peltandra virginica     | Arrow arum                | Sparse                |
|  |                         |                           |                       |
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|  |                         |                           |                       |
|  |                         |                           |                       |
| <b>OVERALL ABUNDANCE: Abundant</b>   |                         |                           |                       |
| <b><u>GENERAL OBSERVATIONS:</u></b>  |                         |                           |                       |
| 1. Encroaching wetlands were located at both the north and south ends of the pond. |                         |                           |                       |